ZT3051_C9613

FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

SERVICE DISPOSAL NO. 1
JUNCTION STATE ROUTE 316 AND LOXA ROAD
MATTOON, ILLINOIS

CERCLIS ID NO.: ILD980901433

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SITE ASSESSMENT SECTION
77 West Jackson Boulevard
Chicago, Illinois 60604

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TABLE OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION

The Ecology and Environment, Inc., (E & E) Technical Assistance Team (TAT) was assigned by the United States Environmental Protection Agency (U.S. EPA), under Contract No. 68-W0-0037, Technical Direction Document (TDD) No. T05-9503-230, to evaluate the Service Disposal No. 1 (SD1) site in Mattoon, Coles County, Illinois as a potential candidate for the National Priorities List (NPL). E & E performed Focused Site Inspection Prioritization (FSIP) activities to determine whether, or to what extent, the site poses a threat to human health and the environment. This FSIP report presents the results of E & E's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways associated with the site. Background information was obtained from U.S. EPA files, Illinois Environmental Protection Agency (IEPA) files, and an on-site reconnaissance (E & E 1995).

This report is organized into six sections, including this introduction. Section 2 describes the site and provides a brief site history. Section 3 provides information about previous investigations conducted at the site. Section 4 provides information about the four migration and exposure pathways (groundwater migration, surface water migration, soil exposure, and air migration). Section 5 is a report summary. References used in the preparation of this report are listed in Section 6.

2. SITE DESCRIPTION AND HISTORY

The SD1 site is located on Loxa Road near the junction of Illinois State Route 316 and Loxa Road, in the City of Mattoon, Coles County, Illinois (secs. 1 & 2, T. 12 N., R. 8 E.). The site coordinates are at latitude 39°30'44.6" North and longitude 88°16'5.4" West (IEPA 1988). It is currently a closed and covered landfill; however, the cover has not been deemed adequate (IEPA 1988). The SD1 site consists of two disposal areas, the eastern and western disposal areas. The site is bordered by Loxa Road to the east, the Western Lion Landfill to the south, and agricultural land to the north and west. The site is located in a rural area approximately 0.75 mile north of the town of Loxa, Illinois. The surrounding area is rural residential, with some light industry. The site location is shown on Figure 2-1.

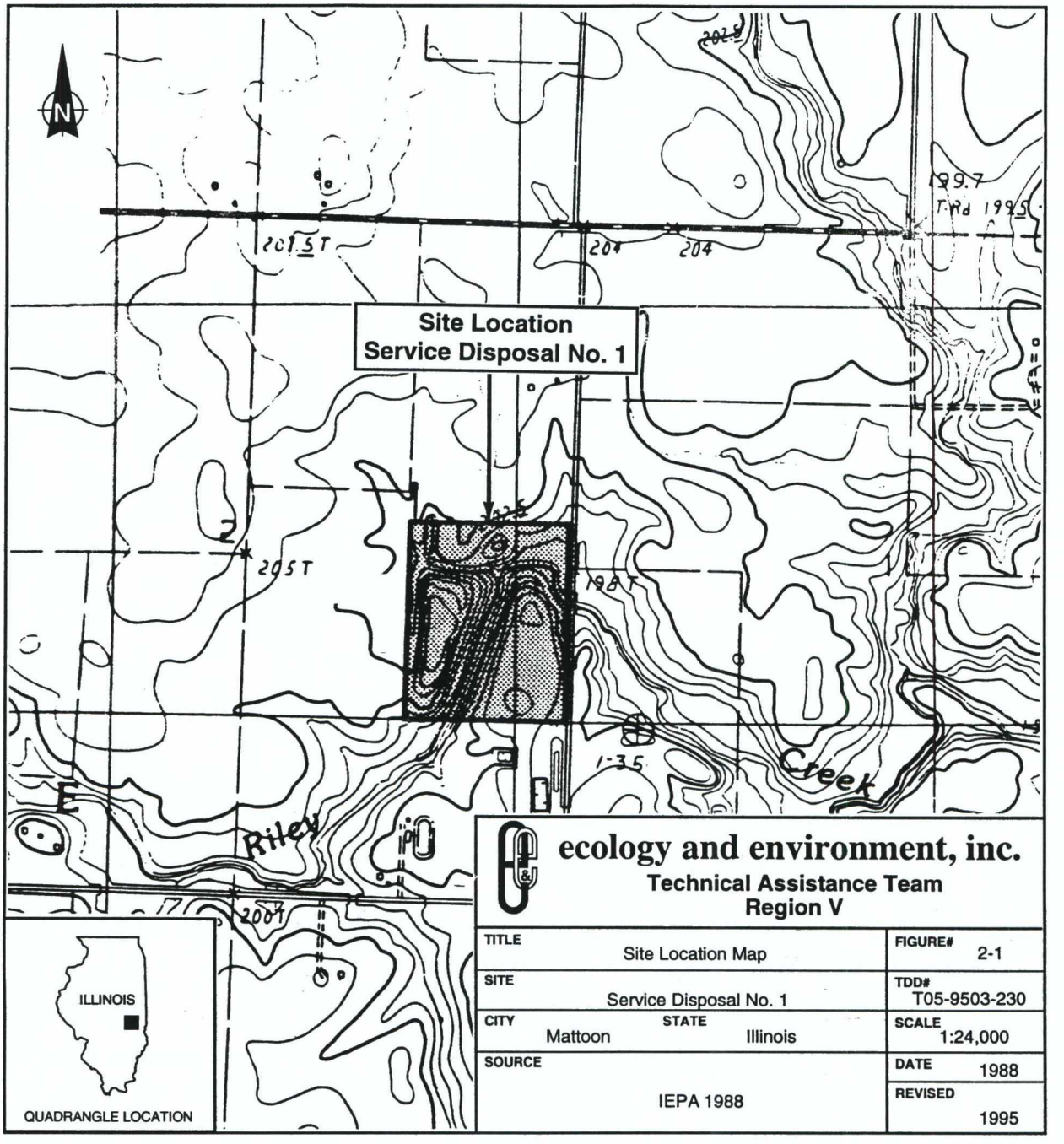
The site is situated on approximately 40 acres of land. Site features are shown in Figure 2-2. Riley Creek, the nearest surface water body, bisects the site, separating the eastern disposal area from the western disposal area. Riley Creek also forms the northern boundary of the eastern disposal area. An intermittent tributary of Riley Creek forms the northern border of the western disposal area.

The site consists of a closed and covered landfill. The cover material is not adequate, and leachate seeps were noted on both the eastern and western disposal areas. Some exposed fill material was visible, and ponded water was noted on top of the eastern disposal area. The landfill was well vegetated (IEPA 1988; E & E 1995). The site area is generally characterized by gently sloping embankments. The northern and western sides of the eastern disposal area and the eastern side of the western disposal area slope toward Riley Creek. The north side of the western disposal area slopes toward the intermittent tributary of Riley Creek (see Appendix B for site reconnaissance photographs). No buildings are located on site, and site access is not restricted (IEPA 1988).

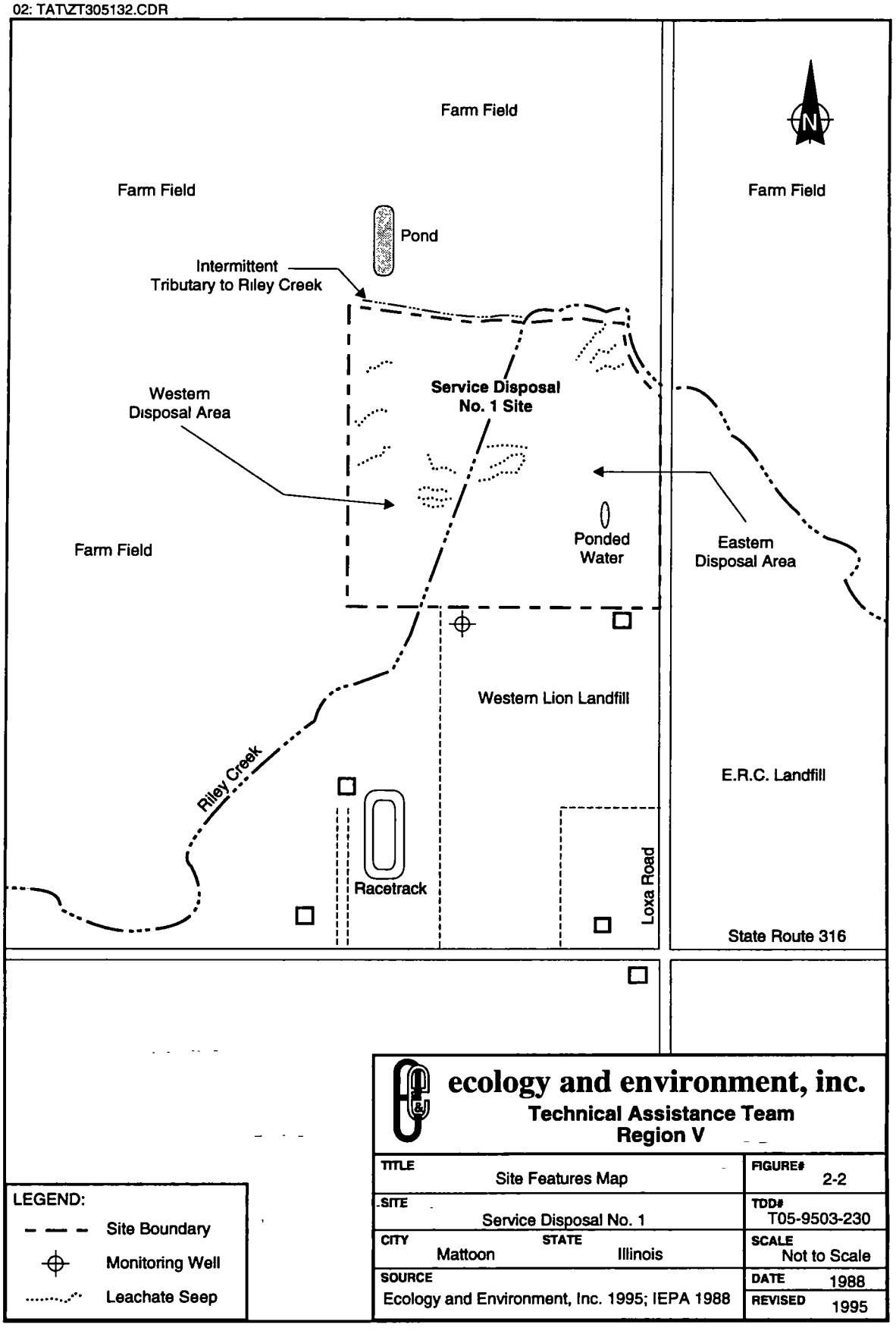
Landfilling operations using primarily area fill methods were begun at the site in 1966 by Mr. Carl Ball. Prior to 1966, the site was used for agricultural purposes. In 1967, Mr. Noble Farrier purchased the site, and operated it until 1972 under the name of Kleen Well

Disposal. In December 1971 the landfill was permitted by IEPA to operate as a solid waste disposal facility. The site accepted general refuse and some nonhazardous wastewater treatment sludge (IEPA 1985). Service Disposal Company (SDC) purchased the landfill in 1972 and operated it until 1976. SDC changed owners in 1976, and by 1980, the landfill was owned by Mr. Roy Hopkins. The landfill ceased operations in 1982. Mr. Hopkins is now deceased, and SDC is defunct. There is no documentation of hazardous waste disposal or mismanagement at the SD1 site. The site property is currently mortgaged to the Central National Bank of Mattoon (IEPA 1988).

The SD1 site has been occupied since 1966. The facility does not have Resource Conservation and Recovery Act (RCRA) or National Pollutant Discharge Elimination System (NPDES) permits.


N
Site Location
Service Disposal No. 1
I-35
Riley
Creek
ILLINOIS
QUADRANGLE LOCATION
ecology and environment, inc.
Technical Assistance Team
Region V
TITLE
Site Location Map
FIGURE#
2-1
SITE
Service Disposal No. 1
TDD#
T05-9503-230
CITY
Mattoon
STATE
Illinois
SCALE
1:24,000
SOURCE
IEPA 1988
DATE
1988
REVISED
1995

02: TAT\ZT305132.CDR



ecology and environment, inc.
Technical Assistance Team
Region V

TITLE: Site Features Map	FIGURE#: 2-2
SITE: Service Disposal No. 1	TDD#: T05-9503-230
CITY: Mattoon STATE: Illinois	SCALE: Not to Scale
SOURCE: Ecology and Environment, Inc. 1995; IEPA 1988	DATE: 1988 REVISED: 1995

3. PREVIOUS INVESTIGATIONS

The site was initially discovered in 1971 when the landfill received a permit from the IEPA to operate as a solid waste disposal facility. The site was inspected by IEPA on numerous occasions between 1976 and 1980, and found to be in violation of the Chapter 7 Rules and Regulations of the Illinois Environmental Protection Act, and its operating permit. These violations included noncompliance with the permit, inadequate spreading and compaction of wastes, lack of daily cover, blowing litter, accepting special wastes, and water pollution by allowing leachate to flow into Riley Creek (IEPA 1988).

On August 23, 1979, a fish kill was observed in Riley Creek resulting from the pumping of leachate from a pond on SD1 property into the creek. Approximately 2,771 fish were killed from the illegal discharge. SD1 paid $294 in restitution to the Illinois Department of Conservation for the fish kill (IEPA 1988).

The site came to the attention of the IEPA Pre-Remedial Unit in June 1987, following a February 1987 site inspection by IEPA's Field Operations Section, Central Region office. The inspection revealed many leachate flows, ponded leachate, and leachate flowing into Riley Creek.

The IEPA conducted a Preliminary Assessment (PA) at the SD1 site on April 30, 1985, and completed the U.S. EPA PA Form 2070-12 on August 29, 1985. The PA report recommended a low priority for a site inspection since the major problem with the site, the discharge of leachate into Riley Creek, did not pose an imminent threat to human or aquatic life (IEPA 1985). No samples were collected as part of this investigation.

The IEPA conducted a Screening Site Inspection (SSI) at the SD1 site on July 19, 1988. The SSI included a reconnaissance inspection and the collection of eight soil/sediment samples and one groundwater sample. The soil/sediment samples were collected from areas of leachate seeps on the landfill, and from Riley Creek. The groundwater sample was collected from a monitoring well located south of the SD1 site, on property owned by the Western Lion Landfill. Sample results will be discussed in Section 4 of this report (see

Appendix A for SSI sample analytical data). No monitoring wells have been installed at the SD1 site.

E & E TAT conducted an FSIP site reconnaissance at the SD1 site on April 24, 1995. The reconnaissance included an interview with site representatives and a site walkover. Site photos were taken during the site walkover (see Appendix B for site reconnaissance photographs). The inspection revealed the site to be inactive. The eastern and western disposal areas were well vegetated in most areas; however, some exposed wastes were observed protruding from the cover material (see Appendix B, Photos 1, 2, and 3). An approximately 25-foot by 15-foot area of ponded water was observed on the top of the eastern disposal area. Leachate seeps were noted along the northern and western sides of the eastern disposal area, and on the eastern and western sides of the western disposal area (see Appendix B, Photos 4 and 5). None of the leachate seeps were observed entering Riley Creek (see Appendix B, Photos 6 & 7). No evidence of hazardous waste disposal or mismanagement was noted during the site reconnaissance, or in any of the available file information (E & E 1995).

4. MIGRATION AND EXPOSURE PATHWAYS

This section describes the four migration and exposure pathways associated with the SD1 site. Section 4.1 discusses the groundwater migration pathway; Section 4.2 discusses the surface water migration pathway; Section 4.3 discusses the soil exposure pathway; and Section 4.4 discusses the air migration pathway.

4.1 GROUNDWATER MIGRATION PATHWAY

This section discusses site-specific geology and soils, groundwater releases, and targets associated with the groundwater migration pathway at the site.

4.1.1 Geology and Soils

The SD1 site is located near the Shelbyville moraine, which marks the maximum advance of the most recent or Wisconsin-age glacial stage. Terminal moraine areas such as this typically have significant quantities of coarse-grained outwash deposits, often interbedded with fine-grained glacial tills. The general soil profile at the site consists of from 12 to 16 feet of brown clayey silt to silty clay with some sand, resting on gray clayey silt to silty clay. The latter material extends from 21 to 36 feet below ground surface (BGS) at various locations over the site. The thickness of the sand and gravel mixture varies from 7 to 22 feet, below which more gray clayey silt to silty clay with some sand and gravel was encountered, extending to a depth of 50 feet BGS (IEPA 1988).

The residents located within a 4-mile radius of the SD1 site obtain drinking water from private groundwater wells. These wells obtain water from the sand and gravel aquifer, and range in depth from 40 to 100 feet BGS. The direction of groundwater flow was not reported (IEPA 1988).

4.1.2 Groundwater Releases

A release of hazardous substances from the SD1 site to groundwater has not been conclusively documented. No evidence of on-site hazardous waste disposal or mismanagement exists. A groundwater sample was collected during the 1988 IEPA SSI from a monitoring well located off site, south of the southern boundary of the SD1 site on property owned by the active Western Lion Landfill. The sample revealed levels of Target Compound List (TCL) and Target Analyte List (TAL) chemicals including benzene at 0.8 micrograms per liter (µg/L), phenol at 39.0 µg/L, 2-chlorophenol at 71.0 µg/L, and mercury at 0.3 µg/L (IEPA 1988). No background samples were collected, and the direction of groundwater flow is not known. No known engineering controls (i.e., clay liner or leachate collection system) exist on the site.

4.1.3 Targets

The approximately 1,171 residents living within a 4-mile radius of the site obtain drinking water from private groundwater wells. There are 19 private well users within 0.5 mile of the site, 46 between 0.5 and 1.0 mile, 229 between 1.0 and 2.0 miles, 347 between 2.0 and 3.0 miles, and 530 between 3.0 and 4.0 miles (IEPA 1988; USGS 1984a, 1984b, 1983, 1982; Monzon 1995). Of these wells, the closest is located approximately 1,800 feet south of the SD1 site. The Western Lion Landfill lies between the SD1 site and the nearest drinking water well. The wells are reportedly between 40 to 100 feet deep and draw water from the sand and gravel aquifer (IEPA 1988).

4.2 SURFACE WATER MIGRATION PATHWAY

It is likely that a release to surface water has occurred as leachate has been observed entering Riley Creek from the site. Riley Creek flows through the middle of the SD1 site and separates the eastern disposal area from the western disposal area. The fish kill that occurred in Riley Creek in 1979 was attributed to the pumping of leachate from the SD1 site into the creek. Analysis of two sediment samples collected from Riley Creek by IEPA during the 1988 SSI detected levels of TCL/TAL compounds including volatile organic compounds (VOCs), pesticides, semivolatile organic compounds (SVOCs), and metals. The downstream sample contained toluene at 5.0 micrograms per kilogram (µg/kg), total xylenes at 2.0 µg/kg, and 2-methylphenol at 59.0 µg/kg, which exceeded the upstream concentration by at least three times (IEPA 1988). There is no documentation that any of these compounds were disposed of in the SD1 landfill (IEPA 1988). IEPA collected two surface water samples from Riley Creek on December 10, 1993, for total metals, Toxicity Characteristic Leaching

Procedure (TCLP) metals, and VOC analysis. The total metals results were compared to general use water quality standards of 35 Illinois Administrative Code 302.208(e), and none of the parameters exceeded the standards (IEPA 1993). The TCLP results were compared to the maximum concentrations of contaminants for the toxicity characteristics in 35 Illinois Administrative Code Part 721, and compared to Part 620.420 groundwater quality standards. None of the parameters were exceeded. The only organic compound found above the detection limit was acetone. Acetone was detected in the upstream and downstream samples at concentrations of 20 μg/L and 21 μg/L, respectively (IEPA 1993). Riley Creek flows in an easterly direction from the site and drains into Kickapoo Creek, located approximately 7.5 miles southeast of the site. Kickapoo Creek flows approximately 4.25 miles and drains into the Wabash River (USGS 1984a, 1984b, 1983, 1982). There are no engineered structures currently in place at the SD1 site that would preclude leachate from entering Riley Creek (E & E 1995).

The site is located within the 100-year floodplain of Riley Creek (IEPA 1988). No wetlands, sensitive environments, or drinking water intakes are known to exist along Riley Creek, Kickapoo Creek, or the Wabash River (IEPA 1988; USGS 1984a, 1984b, 1983, 1982). Riley Creek is reported to be a recreational fishery (E & E 1995).

4.3 SOIL EXPOSURE PATHWAY

A release of hazardous substances from the SD1 site to surrounding soils has been documented. Soil samples collected by IEPA in 1988 near leachate seeps on the site have shown levels of TCL/TAL VOCs, SVOCs, pesticides and heavy metals, including 2-methylphenol at a concentration of 290 μg/kg, acetone at 570 μg/kg, phenol at 740 μg/kg, and lead at 100 μg/kg (IEPA 1988).

The general soil profile at the site consists of from 12 to 16 feet of brown clayey silt to silty clay with some sand, resting on gray clayey silt to silty clay. The latter material extends from 21 to 36 feet BGS at various locations over the site. The site is fenced along the eastern border; however, the fence does not fully encompass the site. There are no other security measures employed at the site that would restrict site access. Empty shotgun shell casings were observed during the 1995 site reconnaissance, indicating that the site is used recreationally for either target practice or for hunting (E & E 1995). The site is inactive; therefore, no workers may potentially be exposed to on-site soils. The nearest residence is located approximately 1,800 feet south of the site. There are no schools or daycare facilities located within 200 feet of the site. Approximately 65 persons reside within a 1-mile radius of the site based on straight-line distances (E & E 1995; USGS 1984a, 1984b, 1983, 1982).

4.4 AIR MIGRATION PATHWAY

A release of hazardous substances to air is not likely to have occurred. There is no documentation of on-site hazardous waste disposal or mismanagement. An Organic Vapor Analyzer (OVA), used to monitor the air during the 1995 FSIP site reconnaissance, did not reveal any organic contaminants in the breathing zone. A reading of 4 parts per million (ppm) was recorded on the OVA at the face of a leachate seep. Incorporating an activated carbon prefilter with the OVA, the reading of 4 ppm still registered, indicating that the compound being detected was methane. There is no record of complaints filed by surrounding residents with regard to odors or landfill mismanagement in any available file information.

No workers are currently employed at the site. The population surrounding the site is relatively sparse. Approximately 1,171 persons reside within a 4-mile radius of the site (USGS 1984a, 1984b, 1983, 1982; Monzon 1995). There are no known wetlands or terrestrial sensitive environments within a 1-mile radius of the site (IEPA 1988; USGS 1984a, 1984b, 1983, 1982).

5. SUMMARY

E & E has evaluated the SD1 site using U.S. EPA and IEPA file information, as well as information obtained during the 1995 FSIP site reconnaissance. The SD1 site has been an inactive landfill facility since approximately 1982 (IEPA 1988). Soil samples collected from the site in 1988 revealed levels of TCL/TAL chemicals including 2-methylphenol at a concentration of 290 μg/kg, acetone at 570 μg/kg, phenol at 740 μg/kg, and lead at 100 μg/kg.

The 1,171 residents within a 4-mile radius of the site obtain drinking water from private groundwater wells drawing water from the sand and gravel aquifer. The wells are reportedly between 40 to 100 feet deep. The nearest private drinking water well is located approximately 1,800 feet south of the site (IEPA 1988). No private wells have been sampled as part of any investigation of the SD1 site.

A release of hazardous substances from the SD1 site to groundwater has not been conclusively documented. No evidence of on-site hazardous waste disposal or mismanagement exists. During the 1988 IEPA SSI, a groundwater sample was collected from a monitoring well located off site, on property owned by the active Western Lion Landfill. The sample revealed levels of TCL and TAL chemicals including benzene at 0.8 micrograms per liter (μg/L), phenol at 39.0 μg/L, 2-chlorophenol at 71.0 μg/L, and mercury at 0.3 μg/L (IEPA 1988). No background samples were collected.

A release of hazardous substances to surface water is likely to have occurred. Leachate has been observed entering Riley Creek from the site on several occasions. Riley Creek flows through the middle of the SD1 site and separates the eastern disposal area from the western disposal area. The fish kill that occurred in Riley Creek in 1979 was attributed to the pumping of leachate from the SD1 site into the creek. Analysis of sediment samples collected from Riley Creek by IEPA during the 1988 SSI detected levels of TCL VOCs, and SVOCs including toluene, total xylenes, and 2-methylphenol (IEPA 1988). Surface water samples collected from Riley Creek by IEPA during the 1988 SSI did not exceed Illinois

groundwater quality standards. The only organic compound found above the detection limit was acetone. Acetone was detected in both the upstream and downstream samples (IEPA 1993). Riley Creek flows in an easterly direction from the site to Kickapoo Creek, located approximately 7.5 miles southeast of the site. Kickapoo Creek flows approximately 4.25 miles and drains into the Wabash River (USGS 1984a, 1984b, 1983, 1982). There are no engineered structures currently in place at the SD1 site, which would preclude leachate from entering Riley Creek (E & E 1995).

The site is located within the 100-year floodplain of Riley Creek (IEPA 1988). No wetlands, sensitive environments, or drinking water intakes are known to exist along Riley Creek, Kickapoo Creek, or the Wabash River (IEPA 1988; USGS 1984a, 1984b, 1983, 1982).

Leachate stained soils were observed during the 1995 FSIP site reconnaissance inspection. The SD1 site is not completely fenced; therefore, site access is not restricted. The nearest residence is located approximately 1,800 feet south of the site. There are no schools or daycare facilities located within 200 feet of the site (E & E 1995; USGS 1984a, 1984b, 1983, 1982).

A release of hazardous substances to the air has not been documented. Air monitoring conducted during the 1995 FSIP site reconnaissance did not reveal any airborne contaminants above background concentrations in the breathing zone. A reading of 4 ppm was elicited at the face of a leachate seep (E & E 1995). The site is inactive, and no workers are currently employed at the site. No records of complaints regarding odors are known to exist (IEPA 1988). Also, no sensitive environments that could potentially be affected by releases from the site are located within 4 miles of the site (IEPA 1988; USGS 1984a, 1984b, 1983, 1982).

6. REFERENCES

References not included in Appendix C: documents that are currently available within U.S. EPA files; copyrighted documents that are currently available in E & E's library; maps produced by either the United States Geologic Survey or the Illinois State Geologic Survey; and documents that are created by the various state agencies for public use.

Ecology and Environment, Inc., April 24, 1995, Service Disposal No. 1 Site Reconnaissance Logbook.

Illinois Environmental Protection Agency (IEPA), 1993, Sampling Inspection Narrative, prepared by Ms. Deborah Paxton, Champaign, Illinois.

_____, 1988, *Screening Site Inspection Report for Service Disposal No. 1, Mattoon, Illinois*, Springfield, Illinois.

_____, 1985, *Preliminary Assessment Report for Service Disposal No. 1, Mattoon, Illinois*, Springfield, Illinois.

Monzon, C., 1995, personal communication, Librarian, U.S. Census Bureau Library, Boston, Massachusetts, telephone conversation with Chad Eich, Ecology and Environment, Inc., Buffalo, New York.

United States Geological Survey, 1984a, 7.5 minute series (topographic) quadrangle, Charleston-South, Illinois.

_____, 1984b, 7.5 minute series (topographic) quadrangle, Mattoon-East, Illinois.

_____, 1983, 7.5 minute series (topographic) quadrangle, Humbolt, Illinois.

_____, 1982, 7.5 minute series (topographic) quadrangle, Charleston-North, Illinois.

APPENDIX A

1988 SCREENING SITE INSPECTION SOIL, SEDIMENT, SURFACE WATER AND GROUNDWATER ANALYTICAL DATA

Illinois Environmental Protection Agency

Bureau of Land

0298050001–COLES County
Mattoon/Service Disposal #1
Deborah Paxton
12/10/93
FOS

SAMPLING INSPECTION NARRATIVE

Service Disposal #1 does not have any groundwater monitoring wells; therefore, FOS collected water samples from Riley Creek which flows between the eastern and western halves of the landfill: water flowing below the southern bridge, adjoining Western Lion, was sampled to obtain an upstream sample (see photo 6, Roll 108 and photo 10, Roll 113) and a downstream sample (photo 7, Roll 108) was collected (off-site) from the water below the north bridge which crosses the Loxa county road east of the landfill (see site sketch). It should be noted that the landfill was not inspected at the time of the sampling inspection since the primary purpose of the visit was to collect upstream and downstream samples and to inspect the adjacent Western Lion landfill. None of the apparent violations noted during previous inspections were noted for this sampling inspection.

Deborah Paxton and Jeff Turner, BOL/FOS—Champaign collected the two water samples on December 10, 1993 and James Shepard, Macon County Public Health Department, accompanied the inspectors. The weather was cold with the temperatures in the 40s. Three (3) photographs were taken.

Sample Results

Total Metal

The total metal analyses for sample S101 (upstream) and sample S302 (downstream) were received at the Champaign Regional Office on February 1, 1994 and January 27, 1994 respectively. Since the samples were collected from waters of the State, the general use water quality standards of 35 Ill. Adm. Code 302.208(e) were used to compare the total concentrations for the chemical constituents listed in Table A. The sample results from the July 30, 1993 inspection are included to compare with the results received from the December 10, 1993. Only the iron result for the July 30, 1993 inspection exceeded the general use water quality standard. Since the December 10, 1993 inspection none of the parameters exceeded the standards.

Table A

Parameter	S101 12/10/93	S101 06/30/93	S302 12/10/93	S301 06/30/93	Standard mg/L
Fluoride	**	.21 mg/L	**	.21 mg/L	--
Sulfate	**	40 mg/L	**	40 mg/L	500
Mercury	*	*	*	.13 ug/L	--
Calcium	**	85 mg/L	**	86 mg/L	--
Sodium	**	8 mg/L	**	8.6 mg/L	--
Aluminum	**	1100 ug/L	**	1200 ug/L	--
Boron	24 ug/L	40 ug/L	28 ug/L	50 ug/L	1.0
Iron	470 ug/L	1200 ug/L	320 ug/L	1500 ug/L	1.0
Manganese	35 ug/L	50 ug/L	30 ug/L	64 ug/L	1.0
Chloride	**	28 mg/L	**	28 mg/L	500
Nitrate	8.2 mg/L	10 mg/L	8.1 mg/L	10 mg/L	--
Cyanide	*	.02 mg/L	*	.01 mg/L	--
Magnesium	**	35 mg/L	**	36 mg/L	--
Potassium	**	1.5 mg/L	**	1.7 mg/L	--
Barium	57 ug/L	81 ug/L	57 ug/L	83 ug/L	5.0
Chromium	*	*	*	5 ug/L	--
Strontium	**	150 ug/L	**	150 ug/L	--
Zinc	30 ug/L	*	*	140 ug/L	1.0

* Denotes parameter was not detected above detection limit.
** Denotes parameter was not analyzed for sample.
- Denotes no standard in Section 302.208(e).

TCLP Metals

The TCLP metals analyses results for S101 and S302 were received at the Champaign Regional Office on January 3, 1994 and February 15, 1994 respectively. The analyses were compared to the maximum concentrations of contaminants for the toxicity characteristic in 35 Ill. Adm. Code Part 721 and compared to Part 620.420, groundwater quality standards: none of the parameters were exceeded. A TCLP analysis was not conducted on sample S101 because the wrong sample bottle was sent to the Chicago laboratory; it was a cyanide preserved bottle and the sample could not be analyzed because of the acid preservative in the sample.

Table B

Metal	S302	TCLP Standard	620.420
Arsenic	(0.01 mg/L	5.0 mg/L	0.2 mg/L
Mercury	(0.01 mg/L	0.2 mg/L	0.01 mg/L
Barium	0.057 mg/L	100.0 mg/L	2.0 mg/L
Chromium	(0.005 mg/L	5.0 mg/L	1.0 mg/L
Silver	(0.005 mg/L	5.0 mg/L	*
Selenium	(0.01 mg/L	1.0 mg/L	0.05 mg/L
Cadmium	(0.005 mg/L	1.0 mg/L	0.05 mg/L
Lead	(0.05 mg/L	5.0 mg/L	0.1 mg/L

* Denotes metal not found in Section 620.420 standards.

Organics

The only organic noted above the detection limit for both samples collected on December 10, 1993 was acetone, and it should be noted that acetone was the only organic detected (S301) during the July 30, 1993 sampling inspection (see Table C).

The concentration of acetone detected in the samples has increased since the July 30, 1993 inspection.

Table C

Sample	Acetone Concentration
S101 (12/10/93)	20 ug/L
S302 (12/10/93)	21 ug/L
S301 (06/30/93)	10 ug/L

cc: BOL/Champaign Region

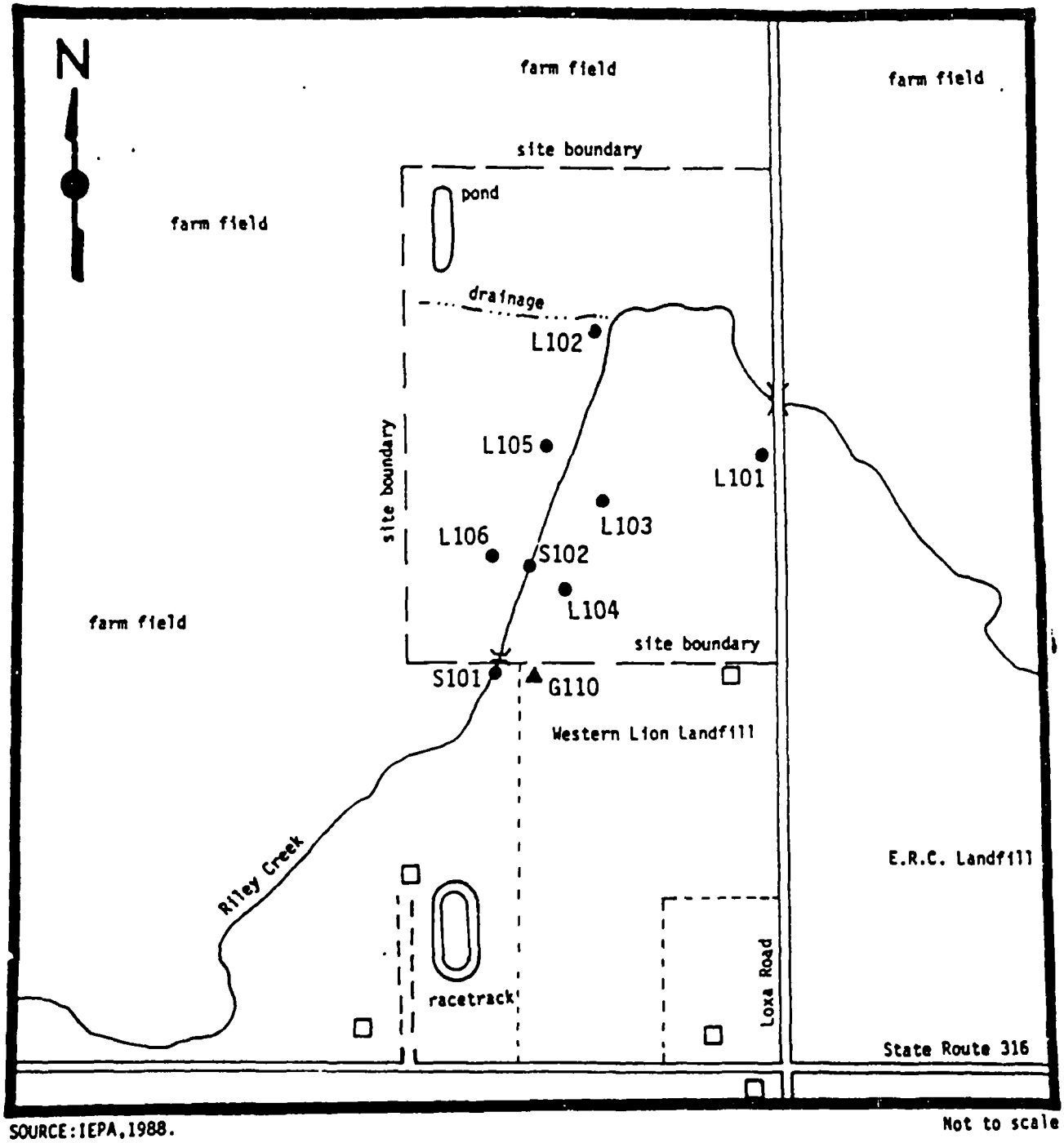


FIGURE 3-2 SAMPLING LOCATIONS

ervice Disposal #1
D 980901433

Table 4-1
Summary of Chemical Analysis Results
(Concentrations in ppb)

SAMPLING POINT	G110 7-19-88	L101 7-19-88	L102 7-19-88	L103 7-19-88	L104 7-19-88	L105 7-19-88	L106 7-19-88	S101 7-19-88	S102 7-19-88
Volatiles									
Chloromethane					12.0	52.0 B			
Methylene Chloride	10.0 B	30.0 B	56.0 BD	80.0 BD	15.0 B	70.0 BD	19.0 B	65.0 B	54.0 B
Acetone	17.0 B	60.0	270.0 D	370.0 D	130.0	570.0 D	150.0 B	180.0	110.0
Carbon Disulfide					7.0				
Chloroform	1.0 BJ								
2-Butanone	10.0 BU								
Trichloroethene	5.0 BU		8.0 JD						
1,1,2-Trichloroethane	5.0 BU								
Benzene	0.8 J								
4-Methyl-2-Pentanone	10.0 BU		55.0 D	150.0 D	13.0	540.0 D			
2-Hexanone	10.0 BU		250.0 D	100.0 D	50.0	110.0 D			
Tetrachloroethene			37.0 D						
1,1,2,2-Tetrachloroethane	10.0 BU								
Toluene	3.0 BJ		250.0 D	910.0 D	2.0 J	240.0 D			5.0 J
Chlorobenzene		10.0		17.0 JD					
Ethylbenzene		71.0							
Total Xylenes		250.0	290.0 D	99.0 D		155.0 D			2.0 J
Pesticides									
Heptachlor		44.0			10.0				
Aldrin					22.0				
Heptachlor epoxide		14.0							
Dieldrin								79.0	
alpha-Chlordane								140.0	
Gamma-Chlordane								130.0	
Semivolatiles									
Phenol	39.0		590.0	400.0	700.0	740.0	610.0		
2-Chlorophenol	71.0								
2-Methylphenol					180.0 J	290.0 J	38.0 J		59.0 J
bis(2-chloroisopropyl)ether			3100.0						
4-Methylphenol			710.0	3000.0	160.0 J				
N-Nitroso-Di-n-propylamine			2100.0						
Isophorone		71.0 JB	260.0 JB	130.0 JB		240.0 JB	220.0 JB		160.0 JB
Benzoic acid			310.0 J	6400.0		2100.0		360.0 JD	110.0 J
bis(2-Chloroethoxy)methane				120.0 J					
Naphthalene		95.0 J	100.0 J	110.0 J		40.0 J	33.0 J		14.0 J
4-Chloro-3-methylphenol	78.0	29.0 J							
2-Methylnaphthalene		28.0 J	75.0 J	54.0 J		52.0 J			
2-Chloronaphthalene			110.0 J						
Dimethyl phthalate						19.0 J			
Acenaphthene	0.7 J		140.0 J	50.0 J		45.0 J	20.0 J	140.0 JD	
4-Nitrophenol	22.0 J					100.0 J			
Dibenzofuran			96.0 J	36.0 J		24.0 J	15.0 J		
Diethylphthalate			290.0 JB	92.0 JB	190.0 JB	170.0 JB	98.0 JB		

Table 4-1
Summary of Chemical Analysis Results (cont
(Concentrations in ppb)

SAMPLING POINT	SS10 7-19-88	L101 7-19-88	L102 7-19-88	L103 7-19-88	L104 7-19-88	L105 7-19-88	L106 7-19-88	SS01 7-19-88	SS02 7-19-88
Semivolatiles									
Fluorene			110.0 J	41.0 J		48.0 J	21.0 J		
N-Nitrosodiphenylamine						33.0 J	20.0 J		
Pentachlorophenol	13.0 J			6.0 J					
Phenanthrene		26.0 J	280.0 J	84.0 J		270.0 J	82.0 J	120.0 JD	210.0 J
Anthracene		26.0 J	54.0 J	84.0 J		67.0 J	11.0 J	91.0 J	
Di-n-butylphthalate	1.0 JB	150.0 JB	360.0 B	360.0 B	400.0 B	1000.0 B	450.0 B	190.0 JBD	420.0 B
Fluoranthene	1.0 J	11.0 J	45.0 J			390.0	37.0 J	210.0 JD	260.0 J
Pyrene	1.0 J	13.0 J	50.0 J			400.0	45.0 J	260.0 JD	260.0 J
Butylbenzylphthalate			52.0 J	47.0 J	33.0 J	93.0 J	45.0 J		84.0 J
Benzo(a)anthracene						130.0 J	15.0 J	210.0 JD	
Chrysene						180.0 J	16.0 J	360.0 JD	120.0 J
bis(2-Ethylhexyl)phthalate	1.0 J	810.0 B	280.0 JB	500.0 B	120.0 JB	1200.0 B	480.0 B	520.0 JBD	
Di-n-Octyl-phthalate				82.0 J		39.0 J	52.0 J		
Benzo(b)fluoranthene						150.0 J			
Benzo(k)fluoranthene						190.0 J			
Benzo(a)pyrene						140.0 J			

ervice Disposal #1
LD 980901433

INORGANIC ANALYSIS
SUMMARY

ALL CONCENTRATIONS IN ppm

SAMPLING POINT	S110	L101	L102	L103	L104	L105	L106	S101	S102
	7-19-88	7-19-88	7-19-88	7-19-88	7-19-88	7-19-88	7-19-88	7-19-88	7-19-88
PARAMETER									
ALUMINUM		1970.00	4700.00	10300.00	3100.00	5300.00	6400.00	5390.00	5000.00
ANTIMONY	0.077								
ARSENIC	0.020	[2.80]	5.50	8.20	4.10	2.90	4.50	7.00	7.20
BARIUM	5.70	850.00	68.00	93.00	32.00	52.00	[35.00]	61.00	44.00
BERYLLIUM		210.00	19.00	19.00	27.00	22.00	29.00	9.90	21.00
CADMIUN									
CALCIUM	56.00	17500.00	36800.00	33700.00	45200.00	43700.00	33700.00	23200.00	26300.00
CHROMIUM				3.80					
COBALT			[4.90]	[6.60]	[1.80]	[2.90]	[3.10]	7.20	[3.90]
COPPER		16.00	8.40	15.00	10.00	[7.90]	9.80	10.00	7.50
IRON	1.20	300000.00	50800.00	36200.00	52700.00	73700.00	73700.00	15900.00	38300.00
LEAD	[0.0045]	100.00	12.00	6.90	5.20	8.50	7.20	15.00	11.00
MAGNESIUM	52.00	4560.00	13400.00	12800.00	10600.00	14200.00	12400.00	9340.00	11600.00
MANGANESE	0.041	290.00	510.00	550.00	250.00	670.00	510.00	310.00	410.00
MERCURY	0.0003	0.32	0.12	[0.062]	[0.13]	[0.12]		[0.068]	[0.075]
NICKEL			8.40	12.00				11.00	[7.30]
POTASSIUM	13.00	[150.00]	770.00	1230.00	[530.00]	880.00	[840.00]	[440.00]	[550.00]
SELENIUM				[0.88]			[0.57]	[0.63]	[0.60]
SILVER		11.00	2.20	[1.70]	[410.00]	3.70	[1.50]	3.50	2.10
SODIUM	70.00	[970.00]	[270.00]	[620.00]		1640.00	[600.00]	[100.00]	[170.00]
THALLIUM									
TIN									
VANADIUM		75.00	19.00	28.00	20.00	21.00	25.00	21.00	17.00
ZINC		360.00	94.00	84.00	72.00	99.00	106.00	48.00	61.00
CYANIDE									
SULFATE		1820.00	290.00	470.00	190.00	700.00	210.00	89.00	160.00
SULFIDE			39.00	50.00		210.00	240.00		68.00
Ph (lab/field)									
CONDUCTIVITY (l/f)									

APPENDIX B
SITE RECONNAISSANCE PHOTOGRAPHS

Photo 1 Date: 4/24/95 Time: 1:18 Direction: E
Site Name: Service Disposal #1
Comments: Vegetated eastern and western fill areas

Photo 2 Date: 4/24/95 Time: 1:17 Direction: E
Site Name: Service Disposal #1
Comments: View of eastern fill area from western fill area. Far right shows a current active western lion landfill area, south of dirt road.

Photo 3 Date: 4/24/95 Time: 1:15 Direction: E
Site Name: Service Disposal #1
Comments: Erosion gullies on western side of eastern fill area. Some exposed wastes protruding from the cover material.

Photo 4 Date: 4/24/95 Time: 1:35 Direction: S
Site Name: Service Disposal #1
Comments: View of western boundary of eastern disposal area with Riley Creek. Note leachate seeps along erosional gullies

Photo 5 Date: 4/24/95 Time: 1:30 Direction: W
Site Name: Service Disposal #1
Comments: Erosion gully on western side of eastern fill area, flowing toward Riley Creek. Note leachate discolored soils and exposed debris.

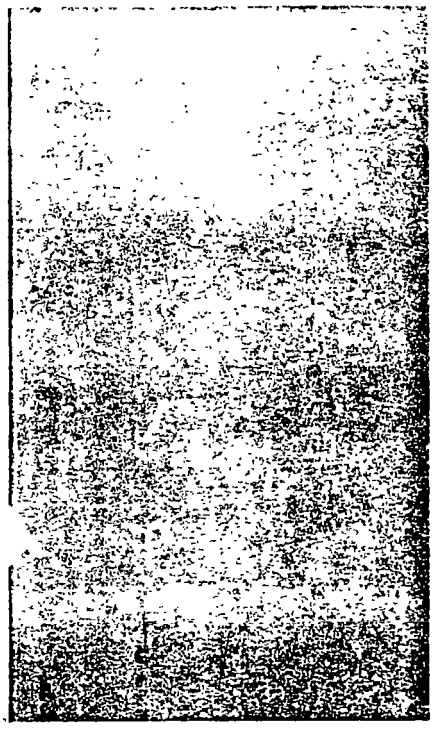
Photo 6 Date: 4/24/95 Time: 1:30 Direction: W
Site Name: Service Disposal #1
Comments: View of erosion gully containing leachate, flowing toward level area and Riley Creek

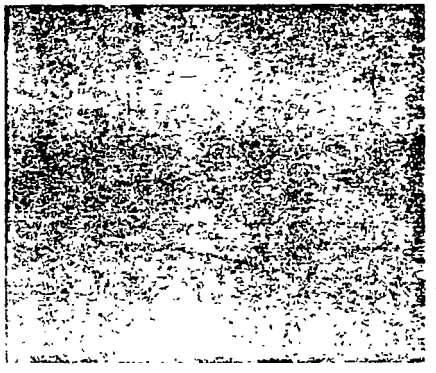
Photo 7 Date: 4/24/95 Time: 1:20 Direction: N
Site Name: Service Disposal #1
Comments: View of Riley Creek. Riley Creek flows on-site at this point.

APPENDIX C
REFERENCE DOCUMENTATION

ecology and environment, inc.

International Specialists in the Environment





Job Number SERVICE DISPOSAL #1

ZT3051 EILO601VAA

MATTOON, ILLINOIS

FSIP SITE RECONNAISSANCE

E & E Job Number ZT3051

Telephone Code Number 02763

Site Name SERVICE DISPOSAL #1

City/State MATTOON, IL.

TDD T05-9503-230

PAN EIL060IVAA

SSID

Start / Finish Date 4/24/95 / 4/24/95

Book 1 of 1

E & E Emergency Response Center: (716) 684-8940
E & E Corporate Center: (716) 684-8060
MEDTOX Hotline: (501) 370-8263
E & E Safety Director (Home): (716) 655-1260

April 24, 1995

0730 TATMs Chad Eich + Bob Meyers depart Chicago for Service Disposal #1 site, Mattoon, Il. Purpose of Trip is to conduct an FSIP Site Reconnaisance at the site. Air monitoring Equipment + PPE were picked up previously.

1310 Arrive on-site. Met on-site Reps.

Larry McGrath - owner
Mark Miller - Atty
Mark McGrath
Bob Howell

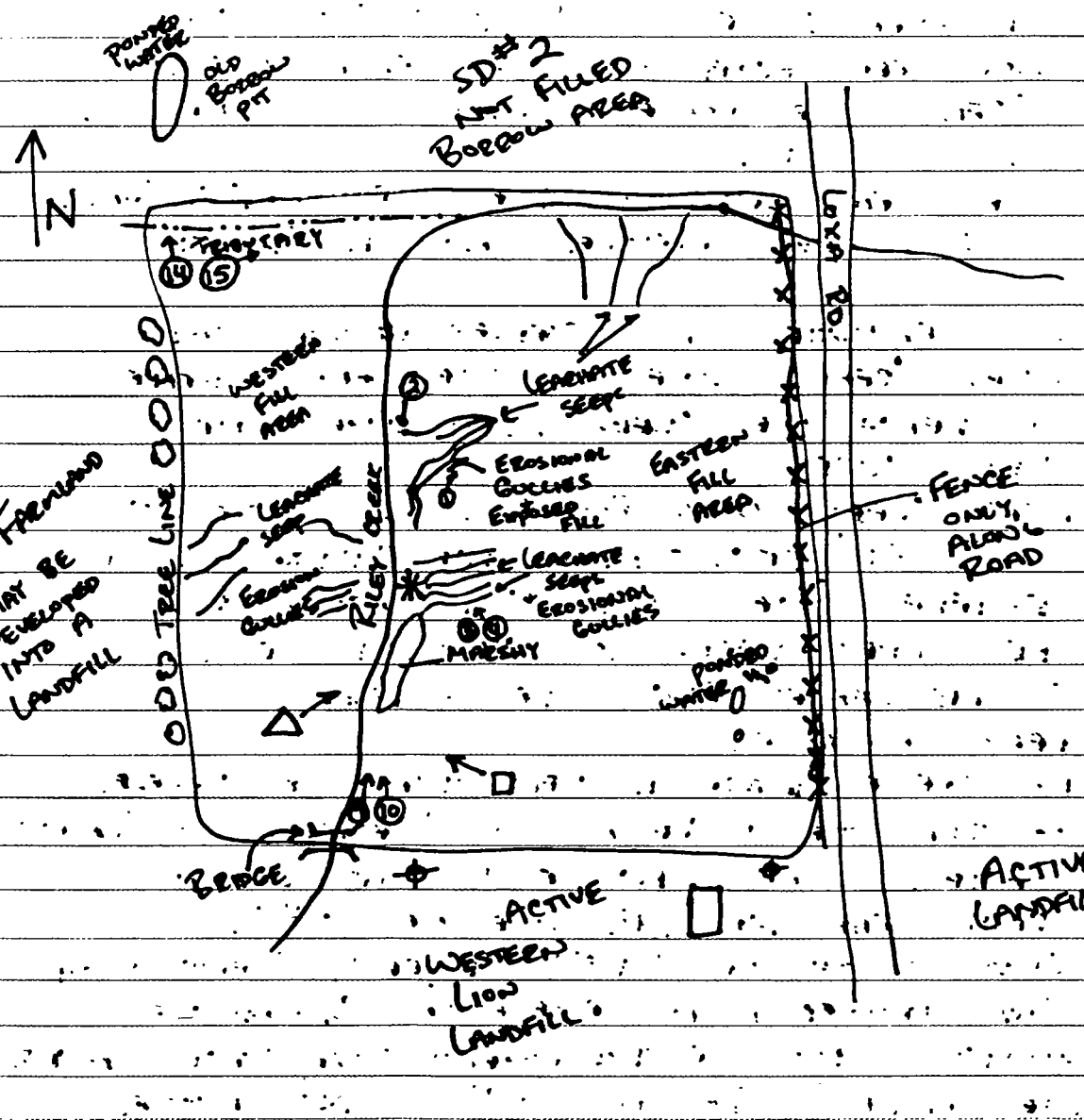
Began site walkover from S.E. corner of site. Observed some ponded water. Mostly well vegetated. Some bare spots w/ exposed waste. Western slope very eroded. Some leachate seeps observed 4 ppm on OVA at face of leachate. 4 Ø ppm w/ Charcoal Filter on. Some ponded water on Top. Riley Creek is up very high. In Summer becomes not much more than a trickle. No known fishing, but people probably do in Spring

11, 12, 13 East area from west
Shot gun shells noted on west fill area
Site fenced but not secure.
Much less leachate noted on western fill area. Some erosion channels. Mostly vegetated.

☐ 16, 17, 18, 19. Panorama of west fill area from east area.

Chad E.

4-24-95



① - PHOTO NUMBER.

* PANORAMA PHOTO - FRAMES 5, 6, 7, 8 - FROM N TO E

□ " " - FRAMES 16, 17, 18, 19 - WESTERN FILL AREA

△ PANORAMA - FRAMES 11, 12, 13 - EASTERN FILL AREA

FRAMES 20 & 21 ARE OF RILEY CREEK, FACING WEST FROM THE BRIDGE OVER LOXA RD.

Chad

4/24/95

THE AREA N OF SD#1 IS SD#2. IT HAS NOT BEEN FILLED. + WAS USED AS A BORROW AREA. THE PONDED WATER IS IN AN OLD BORROW PIT.
THE AREA WEST OF THE SITE IS AG. LAND. + MAY BE DEVELOPED INTO A LANDFILL.

NO LEACHATE WAS OBSERVED FLOWING INTO RILEY CREEK. NONE OF THE SEEPS APPEARED TO REACH THE CREEK, BUT SOME CAME VERY CLOSE.
RILEY CREEK WAS FLOWING FAIRLY RAPIDLY ~25 FT^3/SEC. UNDER THE BRIDGE AS IT ENTERED THE SITE. ~10' ACROSS + A FEW FEET DEEP. TOO CLOUDY TO TELL.
NO RESIDENCES, ETC. ARE WITHIN 200 FEET OF LANDFILL.
AN OFFICE/GARAGE IS NEAR THE S.E. CORNER OF THE SITE + BELONGS TO WESTERN LION LANDFILL.
WESTERN LION IS ACTIVE + WAS DUMPING TRASH NEAR THE SE SIDE OF SD#1.
JUST SOUTH OF SD#1'S PROPERTY, HEAVY EQUIP HAD STRIPPED AWAY VEGETATION, GROUND WAS MUDDY + FULL OF EQUIPMENT TIRE/TRACK TRACKS.
THE LANDFILL EAST OF SD#2 IS ALSO ACTIVE.
IT APPEARED BOTH LANDFILLS WERE DUMPING HOUSEHOLD REFUSE.
1450 TEAM DEPART SITE FOR SMITHFIELD.

ecology and environment, inc.
CHICAGO, ILLINOIS

TELEPHONE LOG

REFERENCE

CONTACT.	COMPANY or AGENCY	POSITION
MR. C. MONZON	U.S. CENSUS BUREAU LIBRARY	LIBRARIAN

CONTACT ADDRESS	CONTACT PHONE NUMBER
2 COPLEY PL. SUITE 301 BOSTON, MA 02117	617-424-0510

E&E EMPLOYEE	DATE	TIME
CHAD EICH	8-3-95	AM.

PROJECT NUMBER	SITE NAME and LOCATION
ZT3051	SERVICE DISPOSAL #1, MATTOON, ILLINOIS

DISCUSSION

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD.

FOR COLES COUNTY ILLINOIS. = 2.41

BASED ON 1990 CENSUS DATA

SIGNATURE Chad Eich

PAGE _____ OF _____